SITE HEALTH AND SAFETY PLAN

WILCOX OIL RESIDENCE SITE

(b) (6) [redacted]

BRISTOW, OK

Prepared for

U.S. Environmental Protection Agency - Region 6
1445 Ross Ave., Suite 1200
Dallas, TX 75202

Contract No.: EP-S4-16-04

Task Order: 028
Project No: WO6-28

August 25, 2017

Environmental Restoration LLC
1666 Fabick Drive
St. Louis, MO 63026

SITE HEALTH AND SAFETY PLAN

WILCOX OIL RESIDENCE SITE

(b) (6) [redacted]

BRISTOW, OK 74010

I hereby certify that the enclosed Site Health and Safety Plan, shown and marked in this submittal, has been prepared in accordance with OSHA 29 CFR 1910 and is proposed to be incorporated with Contract: EP-S4-16-04 Task Order 0022. This Site Health and Safety Plan is submitted for Government approval.

Plan Reviewer:

		281-844-9197
Rafa Aguero Response Manager, ER	Date	Phone Number

Plan Approval:

		720-440-3325
Gary Fanucchi Manager, Health and Safety, ER	Date	Phone Number

Accepted as a submittal:

		214-789-1871
Steve Mason/Bill Rhotenberry On-Scene Coordinator, USEPA Region 6	Date	Phone Number

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Attachments

LIST OF ACRONYMS AND ABBREVIATIONS

AHA	Activity Hazard Analysis
ANSI	American National Standards Institute
COC	contaminant of concern
CFR	Code of Federal Regulations
CIH	Certified Industrial Hygienist
CPR	Cardiopulmonary Resuscitation
CRZ	Contamination Reduction Zone
CSP	Certified Safety Professional
dBA	decibel A-weighted
ERRS	Emergency and Rapid Response Services
EZ	Exclusion Zone
HASP	Site Health and Safety Plan
HAZWOPER	Hazardous Waste Operation and Emergency Response
HSO	Site Health and Safety Officer
IDLH	immediately dangerous to life and health
kV	kilovolt
µg/kg	micrograms per kilogram
mg/kg	milligrams per kilogram
mg/m^3	Milligrams per cubic meter
MSDS	Material Safety Data Sheet
NFPA	National Fire Prevention Association
NIOSH	National Institute of Occupational, Safety and Health
NPL	National Priority List
OSHA	Occupational Safety and Health Administration
PM	Project Manager
RM	Response Manager
RPM	Regional Program Manager
PEL	Permissible Exposure Limit
PPE	personal protective equipment
ppm	parts per million
SDS	Safety Data Sheet
SCBA	self-contained breathing apparatus
SOP	Standard Operating Procedure
SOW	Scope of Work
USEPA	United States Environmental Protection Agency

1.0 Introduction and Site Entry Requirements

This document describes the health and safety guidelines developed, for the Wilcox Oil Residence Site, to protect on-site personnel, visitors, and the public from physical harm and exposure to hazardous materials or wastes. The procedures and guidelines contained herein were based upon the best available information at the time of the plan's preparation. Specific requirements will be revised when new information is received or conditions change. A written amendment will document all changes made to the plan. Any amendments to this plan will be included in Attachment A. Where appropriate, specific OSHA standards or other guidance will be cited and applied.

All work practices and procedures implemented on site must be designated to minimize worker contact with hazardous materials and to reduce the possibility of physical injury. All work will be performed in accordance with applicable Federal 29 CFR 1910 and 1926 health and safety regulations, specifically 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response.

1.1 Daily Safety Meetings

Daily safety meetings will be held at the start of each shift. They are used to communicate daily activities, site conditions, hazards, and control measures, as well as to solicit input from site workers on safety concerns and improvements. The meetings may also be used to present safety training topics and refresher items.

1.2 Site Specific Training

The Response Manager shall be responsible for informing all individuals assigned to this project of the contents of this plan and ensuring that each person signs the Site Specific Training Record in Attachment Z. By signing the Site Specific Training Record, individuals are acknowledging they have received specified training on the potential hazards present on-site and the policies and procedures required to reduce the risk of exposure or adverse effects associated with these hazards.

1.3 Key Personnel

Project– Washington County Lead Superfund Site	
Key Personnel	
Names and Titles	**Contact Information**
Steve Mason/Bill Rhotenberry – OSC USEPA Region 6	(Mobile) 214-789-1871 Email: mason.steve@epa.gov (Mobile) Email:
Rafa Aguero – Response Manager	(Mobile) Email: r.aguero@erllc.com
Rafa Aguero – Site Health and Safety Officer	(Mobile) Email: r.aguero@erllc.com
Gary Fanucchi – Project HS Manager	(Mobile) 720-440-3325 Email: g.fanucchi@erllc.com
Subcontractors	
Company	**Scope of Services**
N/A	N/A

2.0 Roles and Responsibilities

2.1 Response Manager (RM): Rafa Aguero

The Response Manager, as the field representative for ERRS contractor, Environmental Restoration LLC (ER) and its subcontractors, has the responsibility for implementing the site Health and Safety Plan (HASP). The RM shall manage the project and ensure all health and safety requirements are met.

2.2 Site Health and Safety Officer (HSO): Rafa Aguero

The ER Site Health and Safety Officer is assigned to the site on a full-time basis with functional responsibility for assisting the RM with implementation of the HASP.

Specific Duties Include:

- Provide a safe and healthful work environment.
- Report and investigate all incidents.
- Document and correct safety issues/concerns.
- Ensure site personnel meet required training and medical clearance.
- Ensure proper decontamination of personnel and equipment is accomplished.
- Ensure that air monitoring equipment is calibrated and operational.
- Conduct personal air monitoring as required.
- Perform respirator fit tests, as necessary.
- Inventory and inspect PPE prior to personnel entries into exclusion zone.
- Ensure proper personal protective equipment is being utilized.
- Inspect first aid kits and fire extinguishers.
- Supervise confined space entries.

2.3 Project Health and Safety Manager (PHSM): Gary Fanucchi

The Project Health and Safety Manager provides support and leadership to the project to protect the health and safety of the employees and the public. This includes, but is not limited to, communicating on safety and health issues, providing training, establishing special hazard control programs, assisting or conducting incident investigations, making inspections and surveys, evaluating or developing new protective measures, accumulating and distributing incident statistics, and identifying requirements of safety and health laws and regulations.

2.4 U.S. EPA On-Scene Coordinator (OSC): Steve Mason/Bill Rhotenberry

The OSC has overall project authority and directs the project manager regarding the tasks required to meet project objectives. The OSC has the authority to stop work and initiate corrective actions should there be a reason to do so.

2.5 OTHER

Any persons who observe safety problems should immediately report observations/concerns to appropriate key personnel listed in Section 2.1 or 2.2 above.

3.0 Site Background and Scope of Work

3.1 Site Background

The Wilcox Oil Residence (Site) is located at (b) (6) [redacted] in Bristow, OK. The residential property is located on the Wilcox Oil NPL Site. The site was formerly an Oil Refinery. The primary Contaminants in the soil are PAHs including benzo (a) pyrenes. A removal action has been scheduled to mitigate the threats to residence health, and the environment posed by the presence of hazardous substances found at the site

3.2 Scope of Work

The remedial design for this site includes the excavation and removal contaminated soils, and the restoration of the property. Anticipated site activities consist of the following:

1) Mobilize necessary personnel and equipment;
2) Setup support facilities / work zones;
3) Excavate identified grids to targeted depths as directed by OSC;

4) Manage and consolidate excavated soils for disposal;
5) Arrange transportation and disposal of impacted soils in accordance with CERCLA and DOT regulations;
6) Site restoration.
7) Demobilize personnel and equipment as necessary.

4.0 Hazard Assessment

This section is to be addressed in the daily tool box safety meeting as each task is to be initiated. Each Task-Specific Safety Assessment is designed to develop awareness to chemical and physical hazards specific to each task. It would be impractical to repeat in complete detail each control measure and SOP for each job task. Sources, Hazards and Control Measures will be addressed for each job task.

Specific work tasks with unique hazards and/or PPE requirements must be evaluated or reevaluated prior to beginning work. This task review will be led by the Response Manager and the HSO, and will include knowledgeable individuals such as the worker(s) and the supervisor. PPE requirements, based on this assessment, will be included in Section 6 of the HASP or in the AHA for the specific task. All workers must be trained in the requirements of the HASP and the applicable AHAs prior to beginning work. The required PPE may be changed by the HSO, based on the results of additional air monitoring, or on task-specific needs. Downgrades will require the approval of the Project Health and Safety Manager unless otherwise permissible by the HASP.

The following section outlines the Referenced Standard Operations Procedures (SOPs), Chemical Hazards and AHAs associated with this project. Applicable SOPs are available from ER's Health and Safety Database.

The AHAs should be revised for site-specific activities and reviewed with the work crew before commencing any activity.

The following table lists ER health and safety SOPs that are applicable to this project.

Referenced SOPs:	
ER SOPs applicable to this project or task order:	
HS-01 Air Monitoring and Sampling HS-02 Blood Borne Pathogens Exposure Control Plan HS-04 Flammable Liquid Transfer (Bonding and Grounding) HS-08 Decontamination Measures HS-10 Motor Vehicle Operation HS-13 Excavation and Trenching Operations HS-15 Hazard Communication Program HS-16 Hearing Conservation HS-17 Heat Stress HS-18 Heavy Equipment Operation HS-24 Personal Protective Equipment HS-26 Respiratory Protection Program HS-36 Proper Lifting Techniques HS-38 Fire Prevention Protection	HS-49 Tool Safety and Inspection HS-50 First Aid HS-51 Incident Reporting and Investigation HS-52 General Waste Management HS-53 Spill Prevention Response HS-54 Behavior Based Safety Program HS-55 Short Service Employee Program HS-56 Stop Work Authority Program HS-57 Hazard Identification and Risk Assessment HS-58 Fatigue Management Program HS-59 Injury Illness Recordkeeping Program HS-62 Emergency Action Plan HS-63 Job Competency Program HS-64 Security Best Practices HS-73 Assured Grounding
UXO known or suspected to present? Yes ❑ No ☑	UXO support and plans provided Yes ❑ No ☑
Lifts Yes ☐ No ☒	
Items to be lifted: N/A	Critical ❑ Ordinary ❑
Excavations Yes ☑ No ❑	

4.1 Chemical Hazards

	Site Contaminants/Chemicals of Concern				
Chemical	**Media**	**PEL**	**REL**	**Route of Entry**	**Symptoms Acute/Chronic**
Benzo(a)Pyrene	Soil	0.2 mg/m³ (TWA)	0.1 mg/m³ (TWA)	inhalation, skin and/or eye contact	dermatitis, bronchitis, [potential occupational carcinogen]

The above listing should not be taken as a complete assessment of the hazards posed by materials at the Wilcox Oil Residence site remediation. Therefore, personnel must be alert for symptoms of possible exposure. Symptoms must be immediately reported to the site supervisor. See Attachment C for Chemical Hazard Information and SDS.

4.2 Task Specific Hazards and Controls

Activity Hazard Analysis		
Activity:	**Mobilization and Site Setup / Demobilization**	
Personal Protective Equipment:	**Work clothes while traveling / Level D on site during set up**	
Hazard	**Sources**	**Control Measures**
Traffic related injury	Driving motor vehicles	Follow HS-10 Motor Vehicle Operation Obey traffic laws Ensure truck/vehicle cargo is secure prior to transportation Wear seat belts while in operation Cell phone use prohibited while driving Adjust controls/mirrors prior to operation Utilized defensive driving techniques.
Struck by/caught between	Vehicle & equipment operation;	Follow HS-10 Motor Vehicle Operation Follow HS-18 Heavy Equipment Operation Only qualified drivers permitted to operate vehicles Wear ANSI Class 2 or 3 high-vis bility safety vest Wear seat belts while in operation Back up alarms functional and loud enough to hear over surroundings Avoid walking between operating equipment and stationary objects Keep equipment windows and mirrors clean Barricade and post signs to prevent entry into work area Approach Equipment from the front and wait for operator acknowledgement
Ergonomics	Lifting and bending	Follow HS-36 (Proper lifting techniques) Use Buddy system No individual lifting over 40 lbs. Use mechanical means when feas ble
Heat Stress / Cold Stress	Temperature Extremes	Cool / Warm break areas Review and adhere to ER SOP HS-17 and ER SOP HS-05 Plenty of fluids & breaks
Noise	Heavy equipment/Hand tools	Hearing protection required at all times when working with tools generating sound above 85db Hearing protection required when operating open-cab equipment If you have to shout to be heard, use hearing protection
Fire	Electrical devices/service Fueling operations	Fire extinguishers with at least a 3A:40B:C rating shall be located within 75ft of work area Grounding and bonding of fuel tanks during fueling
Electrocution	Power tools/equipment	Follow ER SOP HS-73 Inspect all power cords prior to use Use GFCI on all connections De-energize all circuits in building except for overhead lights and limited 110v receptacles. Protect/elevate temporary power cords Check for overhead utilities prior to work start
Cuts/Punctures	Sharp Objects – Sheet Metal/ Nails/screws	Beware of sharp objects Wear cut resistant gloves Use safety utility knife

Activity Hazard Analysis		
Activity:	**Mobilization and Site Setup / Demobilization**	
Personal Protective Equipment:	**Work clothes while traveling / Level D on site during set up**	
Hazard	**Sources**	**Control Measures**
		Always cut away from body
Slip/Trip/Fall	Uneven terrain/debris	No running onsite Keep area organized Identify/mark hazards Remove debris from walking/ working surfaces

Activity Hazard Analysis		
Activity: Excavation / Excavation of Contaminated Soils		
Personal Protective Equipment: Modified Level D w/air monitoring justification		
Hazard	**Sources**	**Control Measures**
Benzo(a)pyrene	Soil	Maintain dust suppression with water spray/mist at all times Control work area to authorized personnel only Utilize PPE per Section 6 of this HASP Monitor PAH's with PID or equivalent real-time analyzer Minimize contact with contaminated soils
Cuts/Punctures	Sharp Objects – Sheet Metal/ Nails/screws	Beware of sharp objects Wear cut resistant gloves Use safety utility knife Always cut away from body
Ergonomics	Lifting and bending	Follow HS-36 (Proper lifting techniques) Use Buddy system No individual lifting over 40 bs. Use mechanical means when feasible
Heat Stress / Cold Stress	Temperature Extremes	Cool / Warm break areas Review and adhere to ER SOP HS-17 and ER SOP HS-05 Plenty of fluids & breaks
Noise	Equipment/vehicles Hand tools	Hearing protection required at all times when working with tools generating sound above 85db Hearing protection required when operation open-cab equipment If you have to shout to be heard, use hearing protection
Slips/Trips/Falls	Uneven Terrain Debris	No running onsite Keep area organized Identify/mark hazards Remove debris from walking/ working surfaces
Electrocution/explosion/fire	Overhead/underground utilities Equipment fueling	Locate and mark existing energized lines – Local locate company Disconnect/de-energize electrical lines if possible Use spotter at all time during operations near overhead lines Boot lines or use hot stick to move line out of reach of equipment Grounding and bonding of fuel tanks during fueling Fire extinguishers with at least a 3A:40B:C rating shall be placed in when working
Struck by/caught between	Vehicle & Equipment Operation/Traffic	Follow HS-10 Motor Vehicle Operation Follow HS-18 Heavy Equipment Operation Only qualified drivers permitted to operate vehicles Wear ANSI Class 2 or 3 high-visibility safety vest Wear seat belts while in operation Back up alarms functional and loud enough to hear over surroundings Avoid wa king between operating equipment and stationary objects Keep equipment windows and mirrors clean Barricade and post signs to prevent entry into work area Approach equipment from the front and wait for operator acknowledgement
Traffic Control	Motor Driven Vehicles	If traffic control personnel need to wear high visibility traffic vest Stop signs and slow traffic signs will also be used as necessary Work zones will be marked with men working sign and trucks entering and leaving if needed. Safety cones will be use marking parked vehicles

Activity Hazard Analysis		
Job Task:	**Unloading Material / Placing Material (e.g. culverts, heavy objects)**	
Personal Protective Equipment:	**Level D**	
Hazard	**Sources**	**Control Measures**
Ergonomics	Lifting and Bending	Proper lifting techniques / Buddy system Use mechanical means when possible
Struck by/caught between	Back hoe, Excavator, Skid Steer Dump trucks Vehicle & Equipment Operation/Traffic	Approach all equipment from the front, make sure operator acknowledges ground personnel presence Eye Contact With Equipment Operator, Keep a Safe Distance, Site Awareness Only qualified drivers permitted to operate vehicles Wear ANSI Type 2 high-visibility safety vest Wear seat belts while in operation Back up alarms Controlled Work Area If you using slings or the like, inspect lifting devices, check strength ratings(sling and connecting devices), use lift plan Use tag lines for control of material being lifted Use a spotter
Electrical	Overhead Utility	Lift plan Equipment spotter Maintain safe distance from electrical overhead
Punctures	Sharp Objects	Beware of sharp objects / Wear CR gloves
Slips/Trips/Falls	Uneven Terrain Debris	Identify/mark hazards Remove debris from walking / working surfaces

Activity Hazard Analysis		
Activity: Restoration of Properties		
Personal Protective Equipment: Level D		
Hazard	**Sources**	**Control Measures**
Cuts/Punctures	Sharp Objects – Sheet Metal/ Nails/screws	Beware of sharp objects Wear cut resistant gloves Use safety utility knife Always cut away from body
Ergonomics	Lifting and Bending	Follow HS-36 (Proper lifting techniques) Use Buddy system No individual lifting over 40 bs. Use mechanical means when feasible
Heat Stress / Cold Stress	Temperature Extremes	Cool / Warm break areas Review and adhere to ER SOP HS-17 and ER SOP HS-05 Plenty of fluids & breaks
Noise	Equipment/vehicles Hand tools	Hearing protection required at all times when working with tools generating sound above 85db Hearing protection required when operation open-cab equipment If you have to shout to be heard, use hearing protection
Slips/Trips/Falls	Uneven Terrain Debris	No running onsite Keep area organized Identify/mark hazards Remove debris from walking/ working surfaces
Electrocution	Overhead utilities	Locate and mark existing energized lines – Local locate company Disconnect/de-energize electrical lines if possible Use spotter at all time during operations near overhead lines Boot lines or use hot stick to move line out of reach of equipment
Struck by/caught between	Vehicle & Equipment Operation/Traffic	Follow HS-10 Motor Vehicle Operation Follow HS-18 Heavy Equipment Operation Only qualified drivers permitted to operate vehicles Wear ANSI Type 2 or 3 high-vis bility safety vest Wear seat belts while in operation Back up alarms functional and loud enough to hear over surroundings Avoid wa king between operating equipment and stationary objects Keep equipment windows and mirrors clean Barricade and post signs to prevent entry into work area Approach equipment from the front and wait for operator acknowledgement
Traffic Control	Motor Driven Vehicles	If traffic control personnel need to wear high visibility traffic vest Stop signs and slow traffic signs will also be used as necessary Work zones will be marked with men working sign and trucks entering and leaving if needed. Safety cones will be use marking parked vehicles

4.3 General Hazards

Physical/Environmental Hazard Analysis		
Hazard	**Pre Planning to Control Hazard**	**Active Control Measures**
Electrical	1. Locate and mark existing energized lines. 2. De-energize lines if necessary to perform work safely. 3. All electrical circuits will be grounded. 4. All 120 volt single phase which are not a part of the permanent wiring will have a ground-fault interrupter in place. 5. Temporary wiring will be guarded, buried or isolated by elevation to prevent accidental contact by personnel or equipment. 6. Evaluate potential for high moisture/standing water areas and define special electrical wiring needs-typically requirement for low voltage lighting systems.	1. Utilize Qualified Electrical Contractor for any new or temporary electrical construction. 2. Ensure electrical equipment/material meet all local, state and federal code and specifications 3. Use GFCI for all power tool usage.
Ergonomic	1. All operations evaluated for ergonomic impact. 2. Procedures written to define limits of lifting, pulling, etc. 3. Procedures to define how personnel will utilize proper ergonomic concepts and utilize mechanical material handling equipment. 4. Necessary mechanical material handling equipment specified and ordered for project.	1. Proper body mechanics techniques stressed and enforced on a daily basis. 2. Mechanical handling equipment maintained and utilized. 3. Proper body mechanics stressed in scheduled safety meetings. 4. Injuries reported and medically treated if in doubt about severity. 5. Operations changed as necessary based on injury experience or potential.
Existing Site Topography	1. Survey site prior to layout. Identify areas unsafe for personnel or equipment due to physical conditions. 2. Identify/locate existing utilities. 3. Determine impact of site operations on surrounding properties, communities, etc. 4. Identify mechanized equipment routes both on site and onto and off the site. 5. Layout site into exclusion and contamination reduction zones based on initial site evaluation.	1. Awareness to work environment - regular inspection/audits to identify changing conditions. 2. Shut down operations when unknown conditions encountered.
Fires & Explosions	1. Evaluate all operations for fire and explosion potential. 2. Define specific procedures for unique operations presenting unusual hazard such as excavating near gas utilities. 3. Ensure that properly trained personnel and specialized equipment is available. 4. Define requirements for handling and storage of flammable liquids on site, need for hot work permits and procedures to follow in the event of fire or explosion. 5. Define the type and quantity of fire suppression equipment needed on site. 6. Coordinate which local firefighting agencies to discuss unique fire hazards, hazardous materials, etc. 7. Ensure site operations comply with 29CFR 1910.157G.	1. Inspect fire suppression equipment on a regular basis. 2. Store flammables away from oxidizers and corrosives. 3. Follow any site specific procedures regarding work around flammables. 4. Review and practice contingency plans. 5. Discuss on regular basis at scheduled safety meetings.
Flammable Vapor and Gases	1. Evaluate site to determine sources of likely flammable gas or vapor generation. 2. Develop specific procedures to be followed in the event of exposure to flammables. 3. Specify specialized equipment needs for inerting flammable atmospheres, ventilating spaces and monitoring flammable vapor concentrations. 4. Define requirements for intrinsically safe equipment. 5. Develop contingency plan to follow in the event of fire or explosion.	1. Cal brated monitoring equipment available and utilized by trained personnel whenever working where flammable gas or vapor is present. 2. Monitoring performed at regular frequency and in all areas where vapor could generate or pool. 3. Equipment and operations shut down when threshold levels are exceeded. 4. Contingency plans reviewed regularly by all involved personnel. 5. Work areas are carefully inspected to look for poss ble ignition sources. Sources are removed. 6. Operations shut down if specific task procedures can't be followed to the letter.
Heavy Equipment Operation	1. Define equipment routes and traffic patterns for site. 2. Insure that operators are properly trained on equipment operation for all equipment required on project. 3. Define safety equipment requirements, including back up alarm and roll over, for all equipment on site. 4. Define equipment routes and traffic patterns for site.	1. Equipment inspected as required. 2. Equipment repaired or taken out of service. 3. Ground spotters are assigned to work with equipment operators. 4. Utilize standard hand signals and communication protocols.

Physical/Environmental Hazard Analysis		
Hazard	**Pre Planning to Control Hazard**	**Active Control Measures**
	5. Implement SOP of requiring operators to safety inspect equipment on a daily basis in accordance with manufacturer requirements. 6. Evaluate project requirements to ensure that equipment of adequate capacity is specified.	5. Personnel wear the proper PPE; utilize hearing protection, gloves for handling rigging, etc. 6. Equipment safety procedures discussed at daily scheduled safety meetings. 7. Personnel do not exceed lifting capacities, load limits, etc. for equipment in question. 8. Personnel follow basic SOP's which proh bit passengers on equipment, activating brakes and grounding buckets, securing loads prior to movement, etc.
Illumination	1. Evaluate all operations and work areas to determine lighting requirements. 2. Specify specialized lighting requirements including explosion proof, intrinsically safe, lighting needs. 3. Determine if nighttime outdoor operations are necessary. 4. Evaluate tasks to be performed and number of light plants necessary to allow operations. 5. Ascertain if outdoor lighting from nighttime operations will have an impact on surrounding communities.	1. Inspect specialized equipment and discard or replace as needed. 2. Add additional lighting to areas with lighting deficiencies. 3. Inspect drop cords and portable lights on regular basis. Replace or repair as necessary.
Noise	1. Local community noise standards examined. 2. Expected loud operations evaluated to determine compliance with community standards. 3. Loud operations scheduled for approved time periods. 4. Noise level standards established for equipment brought onto site. 5. Hearing protection requirements defined for personnel expected to have excessive exposures.	1. Personnel receive annual audiogram. 2. Personnel required to wear hearing protection. 3. Routine noise level monitoring and dosimetry performed. 4. Defective equipment repaired as needed. 5. Ongoing hearing conservation education promoted at scheduled safety meetings. 6. Medical evaluation following noise (impact) exposure if symptoms present themselves.
Personal Injuries	1. Site operations will be evaluated for exposures with serious injury potential such as falling objects, pinch points, flying objects, falls from elevated surfaces, etc. 2. A written Fall Prevention Program will be developed if workers will be required to work at heights greater than 6 feet from unguarded work locations. 3. PPE requirements will be based on potential for injury.	1. Personnel will wear required PPE. 2. Specialized equipment such as rope grabs, winches, etc. will be inspected prior to each use. 3. Defective equipment will be immediately replaced. 4. All injury and near miss incidents will be reported to the SHSO. 5. First aid/CPR trained person on site at all times. 6. First aid on site. 7. Transport for medical care if necessary.
Small Equipment Usage	1. Site operations will be evaluated to determine need for specialized intrinsically safe, explosion-proof and UL approved equipment and instruments. 2. Implement requirement for G.F.I., double insulated tool usage, or assured grounding program in all outdoor operations, will be utilized. 3. Specify equipment needs to ensure that equipment used only for the purpose for which it is designed and to prevent abuse or misuse of the equipment. 4. Specify requirements for the inspections and maintenance of specialized equipment. 5. Specify that all equipment utilized on the project meets all OSHA requirements.	1. Inspect each tool prior to each use. 2. Ensure all guards are in use and properly positioned. 3. Ensure item being worked on is properly braced if necessary. 4. Get help when appropriate to hold or brace item being worked on. 5. Wear leather or other appropriate gloves in addition to level C PPE.
Weather Conditions	1. Evaluate prevailing weather conditions for the site. 2. Contingency plans developed for likely severe weather conditions such as tornado, and extreme thunderstorm. 3. Provide for daily weather forecast service in extreme weather areas. 4. Plan to weatherize safety systems, such as showers and eye washes that would be impacted by extreme cold weather. 5. Order necessary specialized cold weather clothing. 6. Grounding and bonding requirements defined for thunderstorm areas. 7. Sheltered air conditioned break areas provided for extreme hot and cold weather zones.	1. Employees trained in contingency plan for severe weather conditions. 2. Emergency water sources inspected regularly in cold areas. 3. Weather service contacted regularly during storm conditions. 4. Supervisory personnel cease operations during extreme storm conditions (i.e., thunderstorms). 5. Personnel evacuate to safe assembly area.

Physical/Environmental Hazard Analysis		
Hazard	**Pre Planning to Control Hazard**	**Active Control Measures**
Heat Stress	1. Anticipate possible high temperatures (summer months). 2. Be aware of heat stress symptoms, quit sweating, pale, clammy skin, dizziness	1. Cool break area. 2. Drink water. 3. Buddy system/ awareness 4. First aid on site. 5. Medical care if symptoms persist.
Cold Stress	1. Anticipate possible low temperatures (winter months). 2. Remember the temperature does not have to be below freezing to have a cold stress situation.	1. Warm break area. 2. Warm decaffeinated drinks. 3. Buddy system/ awareness. 4. First aid on site. 5. Medical care if symptoms persist

5.0 Training Requirements

This section describes ER's project training requirements and site visitor policy. Training of all personnel shall be in accordance with OSHA 29 CFR 1910.120 and the National Fire Protection Association (NFPA) standards.

5.1 Project Training Requirements

The training listed in Table 5-1 will be provided to project participants as noted. All required training will be documented and this documentation maintained onsite.

Project Training Requirements:		
Topic	**Description**	**Personnel**
General Training		
Site Safety and Health Plan	Site-specific hazards and control requirements, before commencement of field work. Includes training in proper use and care of PPE.	All project personnel
Activity Hazard Analysis	Activity-specific hazards, controls and training requirements for a specific phase or activity, prior to commencement of activity	Workers, supervisors and oversight personnel engaged in the activity
Daily Safety Briefing	In addition to plan-of-the-day and daily hazard reminders, often used to cover a specific topic; provided refresher training on various issues; or changes in hazards, controls or procedures.	All field workers, supervisors and field oversight personnel
Emergency Action Plan	Roles, responsibilities, recognition of emergency conditions, reporting and notification, evacuation and other procedures.	All project personnel, with detailed information on procedures for workers with special responsibilities
OSHA 40-Hour Hazardous Waste Operation (HAZWOPER) Training	General hazards and controls for hazardous waste activities at remediation sites, prior to performing work in an exclusion zone.	General site workers, supervisors, oversight personnel on HAZWOPER sites
OSHA 8-Hour Supervisor	Managing HAZWOPER work activities	Supervisors and management support staff on HAZWOPER sites
OSHA 8-Hour Refresher	Current annual refresher for HAZWOPER sites.	Workers, supervisors and oversight personnel engaged in the activity
OSHA 10-Hour Construction Safety	10-Hour OSHA Construction Safety Course	HSO at a minimum.
Hazard Communication	Requirements for SDS, labels; hazards of site materials and controls; location of and access to inventories and MSDS.	All project personnel potentially exposed to hazardous materials
Fire Extinguisher	General education on selection, distribution, and proper use of fire extinguishers.	All project personnel
Special Training		
Federal OSHA Lead Construction Standard (29 CFR 1926.62)	General hazards and controls for lead contamination activities at remediation sites, prior to performing work in an exclusion zone.	General site workers, supervisors, oversight personnel on HAZWOPER sites
First aid/ Cardiopulmonary Resuscitation (CPR)	Red Cross, National Safety Council or other authorized course, with current refresher	At least 2 project personnel
Fall Protection	Fall (from elevation) hazards, fall protection techniques, especially proper use of personal fall arrest systems and rescue procedures.	Task-specific, workers exposed to fall hazards.
Lockout/tagout/tryout	Site-specific energy control and verification procedures.	Authorized personnel working on de-energized systems, and affected employees

Project Training Requirements:		
Topic	**Description**	**Personnel**
		whose work may be impacted by a lockout/tagout/tryout situation.
Other Heavy Equipment operations	Qualified by Construction Manager, Superintendent or Equipment Supervisor as documented on ECC Equipment Operator Qualifications Form	Equipment Operators
Power tools (e.g. chain saws, chippers, powder-actuated tools, compressed air systems)	Hazards and proper use and maintenance as described in operations manual. Powder-operated tool users certified by manufacturer.	Tool users

5.2 Visitor Indoctrination Policy

All site visitors will be required to review the daily tailgate safety issues and sign the visitor log. At a minimum, all visitors must be informed of the anticipated hazards and PPE requirements, designated work zones, escort procedures, and emergency procedures.

6.0 Personal Protective Equipment

The following is a brief description of the personal protective equipment, which may be required during various phases of the project. The USEPA terminology for protective equipment will be used; Levels A, B, C and D.

Respiratory protective equipment shall be NIOSH-approved and use shall conform to OSHA 29 CFR Part 1910.134 Requirements. Each employer shall maintain a written respirator program detailing selection, use, cleaning, maintenance and storage of respiratory protective equipment. The written Respiratory Program is maintained at the local and regional offices.

6.1 Level A Protection Shall Be Used When: (NOT ANTICIPATED)

- The extremely hazardous substance requires the highest level of protection for skin, eyes and the respiratory system;
- Substances with a high degree of hazard to the skin are known or suspected;
- Chemical concentrations are known to be above IDLH levels; or,
- Biological hazards requiring Level A are known or suspected.

6.2 Level B Protection Shall Be Used When: (NOT ANTICIPATED)

- The substance(s) has been identified and requires a high level of respiratory protection but less skin protection;
- Concentrations of chemicals in the air are IDLH or above the maximum use limit of an APR with full-face mask;
- Oxygen deficient or potentially oxygen deficient atmospheres (<19.5%) are possible; and/or, Confined space entry may require Level B.
- Incomplete identification of gases and vapors, but not suspected to be harmful to skin or skin absorbable

6.3 Level C Protection Shall Be Used When: (NOT ANTICIPATED)

- The same level of skin protection as Level B, but a lower level of respiratory protection is required;
- The types of air contaminants have been identified, concentrations measured, and an air-purifying respirator is available that can remove contaminants; or,
- The substance has adequate warning properties and all criteria for the use of APR respirators has been met

6.4 Mod Level D Protection Shall Be Used When:

- The atmosphere is demonstrated to be within OSHA permissible limits
- Work functions preclude splashes, immersion or the potential for unexpected inhalation of, or contact with, hazardous concentrations of harmful chemicals.

Mod Level D Protection Equipment at a Minimum Shall Consist of:

Chemical Resistant/Protective Coveralls	Particulate resistant (i.e. Kleengard A20 or equivalent)
Safety Shoes/Boots	ANSI Approved
Boot Covers (booties)/Steel Toe Rubber Boots	Latex - During muddy conditions as necessary
Work Gloves	Cotton or Leather
Hard Hat	ANSI approved
Face Shield	As necessary
High Visibility Vest	ANSI Class 2

6.5 Level D Protection Shall Be Used When:

- The atmosphere is demonstrated to be below OSHA permissible exposure limits
- Work functions preclude splashes, immersion or the potential for unexpected inhalation of, or contact with, hazardous concentrations of harmful chemicals.

Level D Protection Equipment at a Minimum Shall Consist of:

Standard work clothes (long pants/sleeved shirt)	Full body washable
Rain Suit	As required
Safety Shoes/Boots (type)	ANSI Approved
Boot Covers (booties)/Rubber Safety Boots	Latex - During muddy conditions as necessary
Work Gloves	Cotton work gloves
Hard Hat	ANSI approved
Safety Glasses	ANSI approved
Modifications:	Use cut resistant gloves when handling sharp objects.
High Visibility Safety Vest	ANSI Class 2 Safety Vest

Specific operating procedures for PPE and Respiratory Protection are available on the intranet.

6.6 Decisions to Upgrade/Downgrade PPE

All decisions to downgrade from Level C to D must be accompanied by air monitoring results. The Project Health and Safety Manager must be consulted prior to on-site decisions to downgrade. All decisions must be documented with an Addendum to the HASP.

The following conditions will necessitate reevaluation of PPE use.

- commencement of a new work not previously identified
- change of job tasks during a work phase
- change of season/weather
- contaminants other than those identified in Safety Plan
- change in ambient levels of contaminants
- change in work which affects degree of chemical contact

6.7 Project Personal Equipment Requirements

Project Personal Protective Equipment Requirements:						
Activity	**Respiratory Protection**	**Body Protection**	**Hand Protection**	**Eye/Face Protection**	**Foot Protection**	**Hearing Protection**
Site Mobilization	Not Anticipated	Standard Work Clothes	Not Anticipated	Not Anticipated	Not Anticipated	Plugs or muffs when noise levels exceed 85db
Site Set-Up	Not Anticipated	Hi- Vis Vest	gloves Cut resistant when necessary	ANSI-approved safety glasses	ANSI-approved safety boots	Plugs or muffs when noise levels exceed 85db
Excavation and Stockpiling of Contaminated Materials (Level D, with Level C Contigency)	Not Anticipated	Level D, Breathable SafeGard® SMS or equivalent if necessary	Cut resistant work gloves	ANSI-approved safety glasses	ANSI-approved safety boots	Plugs or muffs when noise levels exceed 85db
Restoration (Level D)	Not Anticipated	Not Anticipated	Cut resistant work gloves	ANSI-approved safety glasses	ANSI-approved safety boots	Plugs or muffs when noise levels exceed 85db

Personal Protective Equipment Inspection and Care are covered in the ER SOP HS-24.

6.8 Respiratory Protection Program

ER shall implement ER SOP HS-26 Respiratory Protection Program for its employees and subcontractors and train them on its contents. The program will be administered by the HSO.

Respiratory protective equipment shall be NIOSH-approved and use shall conform to OSHA 29 CFR Part 1910.134 Requirements. ER and subcontractors shall maintain a written respirator program detailing selection, use, cleaning, maintenance and storage of respiratory protective equipment.

7.0 Medical Monitoring Requirements

7.1 Pre-Employment Medical Examination

a. Pre-employment medical examinations are required for persons working at hazardous waste sites.
b. All examinations must be completed and documented prior to assignment to this site.
c. All examinations will be conducted following parameters established by WorkCare™.

7.2 Site Specific Medical Examination

a. Not anticipated.

7.3 Annual Medical Examination

a. The medical examination must have been within a 6-month period prior to on-site activity and repeated annually.

7.4 Suspected Exposure Medical Examination

a. Following any suspected uncontrolled exposure to site contaminants, personnel should be scheduled for a special medical examination.
b. The medical examination will be specific for the contaminants and the associated target organs or physiological system.
c. Questions regarding the type of medical examination can be directed to ER's Corporate Health and Safety Manager.

7.5 Contractor Physical Examination Requirements

a. All subcontractors entering the contamination reduction or exclusion zone will have adequate medical surveillance satisfying 29 CFR 1910.120.10 (f).

8.0 Health and Hazard Monitoring

According to 29 CFR 1910.120 (h) Air Monitoring shall be used to identify and quantify airborne levels of hazardous substances and health hazards in order to determine the appropriate level of employee protection needed on-site. ER shall be tasked for all air monitoring on this project and will maintain an air monitoring program to evaluate concentrations of specific chemical groups or contaminants in ambient air during work activities. This program will include both real-time, direct monitoring equipment, and chemical-specific personal air monitoring as appropriate.

Both area and personal monitoring will be conducted to document potential exposures to hazardous constituents, as well as to evaluate the adequacy of the Personal Protection Equipment (PPE) program.

8.1 Routine Air Monitoring Requirements

- Upon initial entry to rule out IDLH conditions
- When the possibility of an IDLH condition or flammable atmosphere has developed
- When work begins on a different portion of the site
- Contaminants other than those previously identified are being handled
- A different type of operation is initiated
- Employees are handling leaking drums or containers or working in areas with obvious liquid contamination
- During confined space work

Air monitoring will consist at a minimum of the criteria listed below. All air monitoring data will be documented and available in the command post site files for review by all interested persons. Air monitoring instruments will be calibrated and maintained in accordance with the manufacturer's specifications. Calibration and maintenance performed will be entered in the site log and/or instrument log book.

8.2 Site Specific Air Monitoring Requirements

Health Hazard Monitoring:

Activity	Target Analyte	Instrument	Frequency	Action Levels	Actions/Upgrade and Rationale
Excavation (Level D, Level C Contingency)	Coal Tar Pitch Volatiles (Benzene-Benzene Soluble Fraction)	PID to check for PAH's, With meter set for benzene or equivalent	Initial for each HEG and periodic thereafter based on initial results	<2.5 ppm Level D 2.5-5 ppm Level C with OV Cartridges	Air-purifying respirator OV cartridge, move to upwind side of excavation work from upwind to downwind, Evacuate area

Health Hazard Monitoring:

Activity	Target Analyte	Instrument	Frequency	Action Levels	Actions/Upgrade and Rationale
Site wide	**Temperature Extremes Heat	Thermometer In conjunction with web site www.intellicast.com for heat index, rel hum% measurements if WBGT is not available	Observe workers for signs of heat stress and implement physiological monitoring if warranted. **Every 2 hours** **Every 60 minutes** **Every 30 minutes**	80-90 °F HEAT INDEX **90 -105 °F HEAT INDEX** **105 – 130 °F HEAT INDEX** **>130 °F HEAT INDEX**	Implement work rest schedule per HS-17
Site Wide	Temperature Extremes Cold Stress	Thermometer In conjunction with web site www.intellicast.com for heat index, rel hum% measurements if WBGT is not available	Observe workers for signs of cold stress. Refer to cold stress ER SOP HS-05	See ER SOP HS-05 *** See ACGIH warming schedule	Implement work rest schedule and refer to ER SOP HS-05

**When permeable work clothes are worn (street clothes or clothing ensembles over street clothes), regularly observe workers for signs and symptoms of heat stress and implement physiological monitoring as indicated below. This should start when the heat index reaches 80°F (see table above), or sooner if workers exhibit symptoms of heat stress. These heat index values were devised for shady, light wind conditions. Exposure to full sunshine can increase the values by up to 15°F. In addition, strong winds, particularly with very hot, dry air, can be extremely hazardous. When wearing impermeable clothing (i.e. – clothing doesn't allow for air or water vapor movement such as Tyvek), physiological monitoring as described below shall be conducted by all ER employees and their subs when the ambient temperature reaches 80°F or at a lower temperature when workers begin to exhibit signs and symptoms of heat stress.

*** ACGIH Warming Schedule

Air Temperature – Sunny Sky		No Noticeable Wind		5 mph Wind		10 mph Wind		20 mph Wind	
°C	°F	Max. Work Period	No. Of Breaks	Max. Work Period	No. Of Breaks	Max. Work Period	No. Of Breaks	Max. Work Period	No. Of Breaks
-26 to -28	-15 to -19	Normal Breaks (1)		Normal Break (1)		75 min.	2	40 min.	4
-29 to -31	-20 to -24	Normal Breaks (1)		75 min.	2	55 min.	3	30 min.	5
-32 to -34	-25 to -29	75 min.	2	55 min.	3	40 min.	4	Non-emergency work should cease	
-35 to -37	-30 to -34	55 min.	3	40 min.	4	30 min.	5		
-38 to -39	-35 to -39	40 min.	4	30 min.	5	Non-emergency work should cease			
-40 to -42	-40 to -44	30 min.	5	Non-emergency work should cease					
< -42	< -44	Non-emergency work should cease							

8.3 Integrated Personnel Exposure Monitoring

ER will perform personal exposure air monitoring. Monitoring shall be performed per ER HS-01 Air Monitoring, HS-26 Respiratory Protection Program as necessary. We will monitor with PID in excavation areas. The site is in open air, if PID readings rise above 0.25 ppm benzene equivalent, work should be moved to upwind side of excavation (work downwind to upwind, keeping air currents moving PAH's away from workers. Water suppression may also be used to cool excavation materials and trap material in soils.

9.0 Contamination Control and General Field Safety Rules

9.1 Work Zones

The primary purpose for site controls is to establish the hazardous area perimeter, to reduce migration of contaminants into clean areas and to prevent access or exposure to hazardous materials by unauthorized persons. At the end of each workday, the site should be secured or guarded, to prevent unauthorized entry. Site work zones will include:

Support Zone (SZ)

This uncontaminated support zone (SZ) will be the area outside the exclusion zone (EZ) and contamination reduction zones (CRZ), and within the geographic perimeters of the site. This area is used for staging of materials, parking of vehicles, office and laboratory facilities, sanitation facilities, and receipt of deliveries. Personnel entering this zone may include delivery personnel, visitors, security guards, etc., who will not necessarily be permitted in the exclusion zone (EZ). All personnel arriving in the support zone will upon arrival, report to the command post and sign the site entry/exit log. There will be one controlled entry/exit point from the support zone (SZ) to the contamination reduction zone (CRZ).

Contamination Reduction Zone (CRZ)

The decontamination zone will provide a location for removal of contaminated personal protective equipment and final decontamination of personnel and equipment. All personnel and equipment should exit via the decon area. A separate decontamination area will be established for heavy equipment.

1. The CRZ is a buffer zone between contaminated and clean areas.
2. Identified by yellow banner guard or other noticeable material.
3. Decon line is located at the boundary of the CRZ entering the decontamination area.

Exclusion Zone (EZ)

The exclusion zone will be the contaminated area inside the site perimeter. Entry to and exit from this zone will be made through a designated point and all personnel will be required to sign the hot zone entry/exit log located at the decontamination area. Appropriate warning signs to identify the exclusion zone should be posted (i.e. "DANGER - AUTHORIZED PERSONNEL ONLY", "PROTECTIVE EQUIPMENT REQUIRED BEYOND THIS POINT", etc.) Exit from the exclusion zone must be accompanied by personnel and equipment decontamination as described in Section 10.0 of this plan.

1. These areas will be defined by yellow banner guard or similar material to identify boundaries
2. General Safety Rules for Exclusion Zone (EZ)
   a. wear the appropriate level of PPE defined in plan
   b. do not remove any PPE or break the integrity to touch parts of your body
   c. no smoking, eating or drinking
   d. no horseplay
   e. no matches or lighters in this zone
   f. implement the communication and line of sight system

9.2 General Field Safety Rules

- Horseplay is not permitted at any time.

- All visitors must be sent to the command post. Visitor log will be maintained at the command post or with the security guard. All personnel coming on site will sign in and out on a daily basis.
- Visitors are not allowed in the work areas without authorization.
- Security will be maintained at the site by closing all gates during normal work hours. Site will be locked up in the evening.
- If unauthorized members of the public are found on site, contact RM immediately, if not available contact OSC, and do not leave the individual unattended.
- It is ER policy to practice administrative hazard control for all site areas by restricting entrance to exclusion zones to essential personnel and by using operational SOPs.
- Whenever possible, avoid contact with contaminated (or potentially contaminated) surfaces. Walk around (not through) puddles and discolored surfaces. Do not kneel on the ground or set equipment on the ground. Stay away from any waste drums unless necessary. Protect equipment from contamination by bagging.
- Eating, drinking, or smoking is permitted only in designated areas in the support zone.
- Hands and face must be thoroughly washed upon leaving the decon area.
- Beards or other facial hair that interferes with respirator fit will preclude wearing a respirator.
- All equipment must be decontaminated or discarded upon exit from the exclusion zone.
- All personnel exiting the exclusion zone must go through the decontamination procedures described in Section 10.0.
- Safety Equipment described in Section 6.0 will be required for all field personnel.
- Personnel will only travel in vehicles where individual seats for each occupant are provided.
- Seat belts will be worn as required.
- Fire extinguishers will be available on site and in all areas with increased fire danger such as the refueling area.
- A minimum of two personnel will always be on site whenever heavy equipment is operated.
- Only necessary personnel need to be on or around heavy equipment.
- Employees will not interfere with or tamper in any way with air monitoring equipment.
- Backhoes or other equipment with booms shall not be operated within a minimum of 10 feet of any electrical conductor.

Minimum Clearance from Energized Overhead Electric Lines

NOMINAL SYSTEM VOLTAGE	MINIMUM REQUIRED CLEARANCE
0-50 kV	10 feet
51-100 kV	12 feet
101-200 kV	15 feet
201-300 kV	20 feet
301-500 kV	25 feet
501-750 kV	35 feet
751-1000 kV	45 feet

- Buddy System
  - The buddy system is mandatory at any time that personnel are working in the exclusion zone, remote areas, on tanks, or when conditions present a risk to personnel.
  - A buddy system requires at least two trained/experienced people who work as a team and maintain at a minimum audible and/or visual contact while operating in the exclusion zone.
- Communication Procedures
  - Cellular phones shall be used.
  - The site evacuation signal will be 3 blasts on the air or vehicle horn.

10.0 Decontamination Procedures

In general, everything that enters the exclusion zone at this site, must either be decontaminated or properly discarded upon exit from the exclusion zone (EZ). All personnel, including any state and local officials must enter and exit the exclusion zone (EZ) through the contamination reductions zone (CRZ). Prior to demobilization, contaminated equipment will be decontaminated and inspected before it is moved into the support zone (SZ). Any material that is generated by decontamination procedures will be stored in a designated area in the exclusion zone until disposal arrangements are made.

NOTE: The type of decontamination solution to be used is dependent on the type of chemical hazards. The decontamination solution for this site is water. Decontamination solution will be changed daily (at a minimum) and collected and stored on-site until disposal arrangements are finalized.

10.1 Procedures for Equipment Decontamination

Following decontamination and prior to exit from the exclusion zone (EZ), the Response Manager shall be responsible for insuring that the item has been sufficiently decontaminated. This inspection shall be included in the site log when demobilizing from site.

Equipment decontamination will consist of the following steps: Dry decontamination if moving to next property / Clean water decontamination when demobilizing from site

10.2 Procedure for Personnel Decontamination

This decontamination procedure applies to personnel at this site wearing Level D protection. These are the minimum acceptable requirements:

Station 1: Remove work gloves
Station 2: Wash hands and face with antibacterial hand wipes
Station 3: Personnel will not wear or bring dirty/decontaminated clothing into the break areas

Eating, drinking, chewing gum/tobacco, smoking, or any practice that increases the probability of hand to mouth transfer and/or ingestion of materials is prohibited in any areas where the possibility of contamination exists and is permitted only in the designated break area.

Personnel will not wear or bring dirty/decontaminated clothing into the break areas.

10.3 Disposition of Decontamination Wastes

1. All equipment and solvents used for decontamination shall be decontaminated or disposed of with the established waste streams.

2. Commercial laundries or cleaning establishments that decontaminate or are used to launder contaminated clothing shall be informed of the presence and potentially harmful effects of the contaminants.

11.0 Hazard Communication Program

Each contractor will be responsible for maintaining a copy of their Hazardous Communication Program and SDS' on site. The following items are specific to this job site:

11.1 Safety Data Sheets

1. Safety Data Sheets will be maintained at the Command Post in the Health and Safety Binder or be readily available via the internet.
2. SDS' will be available to all employees for review during the work shift.
3. See Attachment C for chemical inventory.

11.2 Container Labeling per new GHS standard

1. All containers received on site will be inspected by the contractor using the material to ensure the following:
   a. all containers clearly labeled
   b. appropriate hazard warning
   c. name and address of the manufacturer

11.3 Employee Training and Information

1. Prior to starting work, each employee will attend a health and safety orientation and will receive information and training on the following:
   a. an overview of the requirements contained in the Hazardous Communication Standard
   b. Hazardous chemicals present at the site
   c. the location and availability of the written Hazard Communication Program
   d. physical and health effects of the hazardous chemicals
   e. methods of preventing or eliminating exposure
   f. emergency procedures to follow if exposed
   g. how to read labels and review SDS' to obtain information
   h. SDS file and location of hazardous chemical list

Hazard Communication Program and applicable SDS are also available on the ER Intranet.

12.0 Emergencies/Incidents/Injuries

It is essential that site personnel be prepared in the event of an emergency. Emergencies can take many forms; illnesses or injuries, chemical exposure, fires, explosions, spills, leaks, releases of harmful contaminants, or sudden changes in the weather. The following sections outline the general procedures for emergencies. Emergency information should be posted as appropriate.

12.1 Emergency Contacts

The following lists the emergency call list and the project organization. This table must be available to the crew at all times. In case of an emergency, the crew must be transported to the designated medical center. Coffeyville Regional Medical Center shall be notified of work activities and potential for personnel contamination. The following table provides contacts for emergency situations.

Emergency Call List and Project Organization		
Service	**Name/Organization**	**Emergency Phone**
Fire/Police/Emergency Medical	Bristow Police Department	911
	Bristow Fire Department	911
*Clinic	Concentra 5682 W Skelly Dr. Tulsa, OK 74107	Meyon Ward 918-446-1891 M-F 8AM-5PM
*Hospital – After Hours	Bristow Medical Center Emergency Room 700 W 7th Ave Bristow, OK 74010	918-367-2215 Use during clinic's off hours
Injury Management	1 Source – Mike Pelz Ovidio Saenz	219-427-5933 (office) 815-370-2940 (mobile) 219-427-5931 (office) 855-517-6872 (mobile)
Client Representative	Steve Mason, USEPA R6 OSC	214-789-1871 (mobile)
ER Sr. Response Manager	Rafa Aguero	281-844-9197 (mobile)
ER Site Health and Safety Officer	Rafa Aguero	281-844-9197(mobile)
ER Project HS Manager	Gary Fanucchi	720-440-3325 (mobile)

*Directions from site to hospital and clinic are located in Attachment B and will be posted in the project office and available in all ER vehicles.

The route to the hospital and clinic shall be verified by _____
Route verified by_____on _____ (date)

- Distance from site to the hospital is approximately _____ miles. Approximate driving time is _____.
- Distance from site to the clinic is approximately _____ miles. Approximate driving time is_____.

12.2 Additional Emergency Numbers

Poison Control Center	800-222-1222
National Response Center	800-424-8802
Center for Disease Control	800-232-4636
ATF (Bomb Hotline)	888-ATF-BOMB (888-283-2662)
Chemtrec	800-262-8200

ER Contacts

ER Corporate Office	888-814-7477 (24 Hr.)

12.3 Emergency Equipment Available On-Site

COMMUNICATIONS EQUIPMENT	LOCATION
Public Telephones	N/A
Private Telephones	N/A
Mobile Telephones	Rafa Aguero
Two-Way Radios	N/A
Emergency Alarms/Horns	Air Horns/Vehicle Horns (3 blasts)
Other:	N/A

MEDICAL EQUIPMENT	LOCATION
First Aid Kits	Command Post, with crew, and in all vehicles.
Stretcher/Backboard	N/A
Eye Wash Station: *(within 100 feet of hazard zone)*	Command Post
Safety Shower	N/A

FIRE FIGHTING EQUIPMENT	LOCATION
Fire Extinguishers	Command Post, in all equipment and vehicles
Other	N/A

SPILL OR LEAK EQUIPMENT	LOCATION
Absorbent Boom/Pads:	Support Zone
Dry Absorbent:	Support Zone

12.4 Incident Reporting/Investigations

All incidents, including personal injury and property damage, must be reported to the your immediate supervisor within 20 minutes of incident. RM / HSO shall implement initial investigation thereafter.

The RM will contact the Project Health and Safety Manager by telephone immediately. The RM, HSO, and effected employees will conduct an immediate investigation of the incident and document all results on the Incident and Investigation Report form.

13.0 Emergency Response Contingency Plan

13.1 Project Personnel Responsibilities During Emergencies

As the administrator of the project, the RM has primary responsibility for responding to and correcting emergency situations. The RM will:

- Take appropriate measures to protect personnel including: withdrawal from the exclusion zone (EZ), total evacuation and securing of the site or up-grading or down- grading the level of protective clothing and respiratory protection.
- Take appropriate measures to protect the public and the environment including isolating and securing the site, preventing run-off to surface waters and ending or controlling the emergency to the extent possible.
- Ensure that appropriate Federal, State and local agencies are informed, and emergency response plans are coordinated. In the event of fire or explosion, the local fire department should be summoned immediately. In the event of an air release of toxic materials, the local authorities should be informed in order to assess the need for evacuation. In the event of a spill, sanitary districts and drinking water systems may need to be alerted.
- Ensure that appropriate decontamination treatment or testing for exposed or injured personnel is obtained.
- Determine the cause of the incident and make recommendations to prevent the recurrence.
- Ensure that all required reports have been properly prepared and submitted.

13.2 Medical Emergencies:

Any person who becomes ill or injured in the exclusion zone (EZ) must be decontaminated to the maximum extent possible. If the injury or illness is minor, full decontamination should be completed and first aid administered prior to transport. If the patient's condition is serious, at least partial decontamination should be completed (i.e., complete disrobing of the victim and redressing in clean coveralls or wrapping in a blanket.) First aid should be administered while awaiting an ambulance or paramedics. All injuries and illnesses must immediately be reported to Vice President of Health and Safety.

Onsite First Aid Support

Onsite medical support during project execution will be available from two or more individuals who are trained in First Aid and Cardiopulmonary Resuscitation (CPR) and blood borne pathogens. First aid kits shall be Type III, 16 unit kits, including one pocket mouthpiece or CPR barrier. Kits shall be checked prior to use, and at least weekly when work is in progress to ensure that contents are replaced as used.

Medical Transport of Employees and Case Management

For non-life threatening injuries, a local clinic will be identified with the assistance of the Corporate Medical Consultant, 1 Source. 1 Source, injury management, will be contacted prior to transporting any non-life threatening injured worker to the clinic to develop an appropriate medical treatment plan. If medical evaluation is necessary, the 1Source nurse/physician will contact the clinic ahead of the arrival of the patient to establish oversight of case management. Under no circumstances will an injured employee drive unescorted to a hospital, clinic, etc. An employee with minor injury may be transported by car after first aid treatment is given. The HSO or other project management personnel will transport the injured person to the facility. The employee who transports the injured person shall be trained in first aid and CPR whenever possible. When the injury is severe, or when in doubt concerning the severity of injury, the employee will be transported by ambulance.

Injured employees that require medical treatment or are taken to a doctor, hospital, clinic, etc., will not be allowed to resume work without a written return to work statement from the treating physician. This statement shall supply a medical diagnosis of the problem, the date of return to work, and work limitations. Should a return to work statement such as "light duty" be given, the treating physician will be contacted to determine the specific limitation. ER will make

an assessment of work the employee routinely performs whether or not the limitation interferes with the employee's routine job assignment.

Whenever there are questions on the appropriateness of the diagnosis or prescribed course of treatment, 1 Source will be contacted to arrange for a second opinion. Copies of all Incident and Investigation Reports will be sent to the ER Vice President of Health and Safety.

13.3 Fire or Explosion:

In the event of a fire or explosion, the local fire department should be summoned immediately. Upon their arrival the RM or designated alternate will advise the fire commander of the location, nature and identification of the hazardous materials on- site.

If it is safe to do so, site personnel may:

- Use firefighting equipment available on site.
- Remove or isolate flammable or other hazardous materials which may contribute to the fire.

13.4 Spills, Leaks or Releases:

In the event of a spill or a leak, site personnel will:

- Locate the source of the spillage and stop the flow if it can be done safely.
- Begin containment and recovery of the spilled materials.

13.5 Evacuation Routes and Resources:

Evacuation routes will be established by work area locations for this site. All buildings and outside work areas shall be provided with two designated exit points. Evacuation shall be conducted immediately, without regard for equipment under conditions of extreme emergency. Evacuation notification will be three blasts on an air horn, vehicle horn, or by verbal communication via radio.

- Keep upwind of smoke, vapors or spill location.
- Exit through the CRZ if possible.
- If evacuation is not via the CRZ, site personnel should remove contaminated clothing once they are in a location of safety and leave it near the exclusion zone or in a safe place.
- The RM will conduct a head count to insure all personnel have been evacuated safely.
- In the event that emergency site evacuation is necessary, all personnel are to:
  - Escape the emergency situation;
  - Decontaminate to the maximum extent practical; and,
  - Meet at the command post.
- In the event that the command post is no longer in a safe zone, meet: at the designated upwind location established in the daily safety meeting and recorded on daily ER tool box talk form.

13.6 Severe Weather

The HSO or designated representative will monitor weather reports issued by the local media and the National Weather Service (NWS), and be notified immediately in the event of impending storms. Weather monitoring will be increased when signs of impending storms, including darkening skies, increased wind, heavy rain, or thunder/lightning, are noticed. The general rule for lightning is "If You See It, Flee It; If You Hear It, Clear It." The flash/bang (f/b) technique may be used to estimate distance to lightning, although using this method requires accurate matching of lightning to thunder, which may not always be possible. The f/b technique is defined as: for each five seconds from the time of observed lightning flash to hearing the associated thunder, the lightning is one mile away. All outside activities will be suspended when a lightning flash is observed in the immediate area, or f/b of 30 seconds (6 miles) or less is noted.

Personnel may continue indoor work activities except for the use of electrical equipment, telephones, and computers. Upon suspension of site activities, all site personnel will gather in a safe location in the support zone

for a head count and further instructions. Activities may resume when 30 minutes have passed since the last observable f/b of 30 seconds or less. If a sudden lightning storm catches personnel in an exposed area, they should seek the lowest possible area, away from large objects which may attract lightning or fall over, and assume a crouching position with head lowered. AREAS TO AVOID INCLUDE WATER, TREES, UTILITY POLES, HIGH GROUND, HEAVY EQUIPMENT, AND ALL TALL, ISOLATED OBJECTS. A person struck by lightning needs immediate, professional medical assistance (contact 911). The body will not carry an electrical charge, so personnel trained in first aid/CPR should assist with treatment for shock and/or burns until professional medical assistance is available

Attachment A

Site Safety Plan Amendments

Site Safety Plan Amendment	
Amendment No.:	
Site Name:	
Date of Issue:	
Type of Amendment:	
Reason for Amendment:	
Alternate Safeguard Procedures:	
Required Changes in PPE:	

_____ _____
USEPA On-Scene Coordinator (Date)

_____ _____
ER Response Manager (Date)

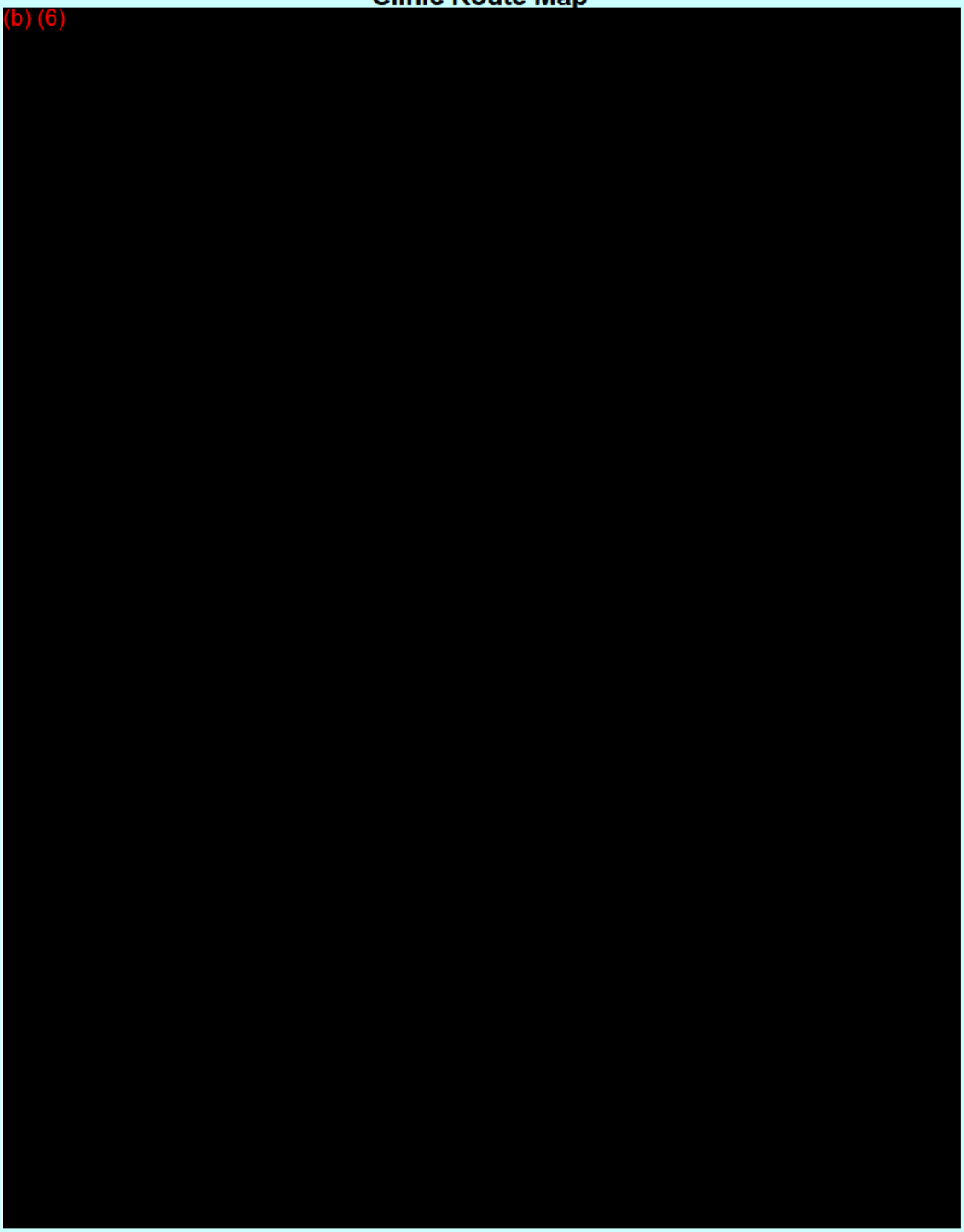
_____ _____
ER Project Health and Safety Manager (Date)

Attachment B

Hospital Route Maps

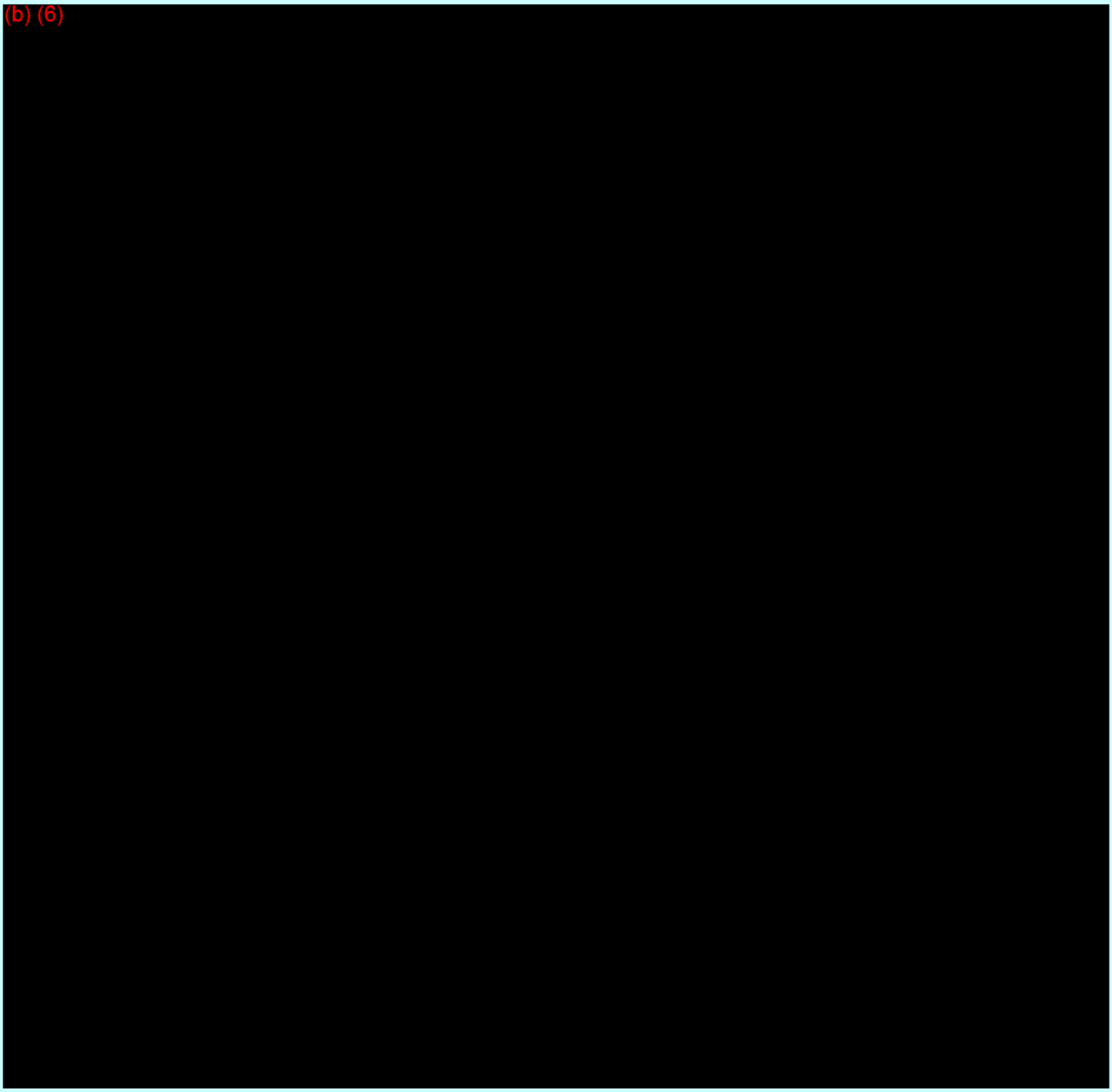
Clinic Route Map

(b) (6)



Hospital Route Map

(b) (6)



Attachment C

Chemical Inventory List / Chemical Hazard

Chemical Inventory List (to be amended as chemicals are brought to the site):
SDS shall be located in the site binder and available for all chemicals listed)

1. Gasoline
2. Diesel Fuel
3. Marking Paint
4. Grease
5. Hydraulic Oil

Attachment Z

Site Specific Training Record

SITE-SPECIFIC TRAINING RECORD

This is to advise that _____conducted a Site-Specific Training
(Instructor's name)

course for_____at the
(Company Name)

_____ project on_____.
(TO #, Project Name) (Date)

The total duration of the instructions was_____hours.

Instruction covered the topics checked off below:

- Site Location, Description and History ☐
- Potential site hazards (chemical, physical, and biological) ☐
- Chemical, physical, and toxicological properties of site contaminants ☐
- Safe work practices ☐
- Training requirements ☐
- Medical Surveillance ☐
- Control Zones ☐
- Monitoring ☐
- Selection, use, and limitation, of personal protective equipment ☐
- Personnel and equipment decontamination ☐
- Emergency response procedures ☐
- Hazard communication ☐
- Blood borne pathogen briefing ☐
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The following participant attended the training course for the full duration indicated above.

_____ _____
Name (Print) Signature